

WHAT IS CLAIMED IS:

1. A method of printing a test pattern, having a plurality of elements, for determining an operational parameter of a printing device, the method comprising the steps of:

determining the size of a print medium presently loaded in the printing device; adjusting, in accordance with the determined size of the print medium, the relative position on the print medium of a plurality of elements of the test pattern to be printed; and printing the test pattern on the print medium.

2. A method as claimed in claim 1, further comprising: arranging the elements of the test pattern during said adjusting step in a layout which substantially minimizes the amount of print medium that is expended to print the whole test pattern.

3. A method as claimed in claim 1, further comprising: determining the width of the print medium during the size determining step; and arranging to be printed as many test pattern elements as will fit across the determined width of the print medium during the adjusting step.

4. A method as claimed in claim 3, further comprising: arranging to be printed subsequent to one or more media advance movements by the printing device any remaining test pattern elements once the maximum number of test pattern elements that can be printed across the width of the print medium is reached.

5. A method as claimed in claim 1, further comprising: determining both the width and the height of the print medium during the size determining step.

6. A method as claimed in claim 1, further comprising:  
holding the test pattern in a memory of the printing device; and  
accessing said memory prior to the printing step.

5 7. A method as claimed in claim 1, further comprising:  
determining the size of the print medium during the size determining step, wherein  
said size of the print medium is determined automatically by the printing device.

10 8. A method as claimed in claims 1, further comprising:  
determining the size of the print medium during the size determining step, wherein  
the size of the print medium is determined by a user of the printing device and is  
input by the user to the printing device.

15 9. A method as claimed in claim 1, comprising the further step of  
automatically measuring the printed test pattern to determine an operational  
parameter of the printing device.

20 10. A method as claimed in claim 9, wherein the automatic measurement of the  
test pattern further comprises:  
optically scanning the elements of the printed test pattern.

25 11. A method as claimed in claim 10, further comprising:  
choosing the relative positioning of the elements of the test pattern during the  
adjusting step, to thereby substantially minimize the number of scanning movements  
required to optically scan the whole of the test pattern.

30 12. A method as claimed in claim 1, comprising a further step in which the user  
of the printing device determines from the printed test pattern an operational  
parameter of the printing device and enters or adjusts the parameter via an interface  
with the printing device.

13. A method as claimed in claim 1, wherein the test pattern is a color calibration pattern and each element of the test pattern relates to the calibration of one of the primary colors of the printing device.

5 14. A method as claimed in claim 13, wherein each element of the test pattern comprises sub-elements, the method further comprising:  
adjusting the relative positions of the sub-elements during the print medium  
adjusting step in accordance with the determined size of the print medium, to  
substantially minimize the amount of print medium that is expended to print the  
10 whole test pattern.

15 15. A method as claimed in claim 1, wherein at least one of the elements of the test pattern comprises a plurality of sub-elements, the method further comprising:  
adjusting the number of sub-elements of said at least one element to be printed in  
accordance with the determined size of the print medium, but not reducing below a  
minimum number of sub-elements necessary to determine the operational parameter  
of the printing device, during the print medium adjusting step.

20 16. A method as claimed in claim 1, wherein at least one of the elements of the test pattern comprises a plurality of sub-elements, the method further comprising:  
adjusting the size of at least one sub-element of said at least one element to be  
printed in accordance with the determined size of the print medium, but not reducing  
below a minimum size of sub-element necessary to determine the operational  
parameter of the printing device, during the print medium adjusting step.

25 17. A method as claimed in claim 1, wherein the test pattern comprises an image.

30 18. A method as claimed in claim 1, comprising the initial step of, prior to determining the print medium size, unloading from the printing device, a roll of print medium and loading a sheet of print medium into the printing device.

19. A method as claimed in claim 1, further comprising:  
arranging the elements of the test pattern in a layout which substantially maximizes  
the accuracy with which the operational parameter of the printer may be determined,  
during the adjusting step.

20. A method as claimed in claim 1, wherein at least one of the elements of the  
test pattern comprises a plurality of sub-elements, the method further comprising:  
adjusting either the size of at least one sub-element or the number of sub-elements to  
be printed or both the size and the number of sub-elements in accordance with the  
determined size of the print medium, to substantially maximize the accuracy with  
which the operational parameter of the printer may be determined, during the  
adjusting step.

21. A method of setting an operational parameter of a printing device  
comprising the steps of:  
determining the size of a print medium presently loaded in the printing device;  
adjusting, in accordance with the determined size of the print medium, the relative  
position on the print medium of a plurality of elements of a test pattern to be printed;  
printing the test pattern on the print medium;  
determining from the printed test pattern a value for the operational parameter of the  
printing device; and  
setting the operational parameter of the printer to said determined value.

22. A method as claimed in claim 21, further comprising:  
arranging the elements of the test pattern in a layout which substantially minimizes  
the amount of print medium that is expended to print the whole test pattern, during  
the adjusting step.

23. A printing apparatus having a settable operational parameter, the  
apparatus comprising:  
a print engine capable of receiving instructions to print data;  
a media advancing mechanism into which print media is loadable;

a media measurer for measuring the size of loaded print media;  
a memory for storing a printable test pattern having a plurality of separable elements;  
and  
a processor having an input for receiving size data regarding the presently loaded  
5 print medium from the media measurer and an output to the print engine for passing  
instructions to print a test pattern,  
wherein the processor, in use, formats the plurality of separable elements of the test  
pattern relative to each other so that the whole test pattern when printed expends a  
substantially minimum amount of print media.

10 24. A printing apparatus as claimed in claim 23, further comprising:  
a scanning carriage having a plurality of color ejection devices and an optical sensor  
for measuring test patterns, wherein, in use, following the printing of the test pattern  
by the color ejection devices, the test pattern is scanned by the optical sensor and the  
15 processor calculates from the scanned data a new or adjusted value for a operational  
parameter of the printing apparatus.